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Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC 20554

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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

In the Matter of )  
)  
Complaint of Discrimination ) Disabilities Issues Task Force  
on the Basis of Handicap )  
Filed by the Cellular Phone )  
Taskforce on Feb. 2, 1997 )  
)  
Guidelines for Evaluating ) ET Docket No. 93-62  
the Environmental Effects of )  
Radiofrequency Radiation )

COMMENTS (EX PARTE)

These Comments are in support of the Appeal of the Cellular Phone Taskforce in the above-referenced Discrimination case, and are also submitted as Ex Parte Comments in ET Docket No. 93-62. Attached are documents to supplement those submitted to the Commission in this case yesterday, January 19, 1998, regarding Marija Hughes. Attached are her testimony before the District of Columbia Zoning Commission on October 25, 1993, and before the National Capital Planning Commission on March 3, 1994. This Zoning Case No. 93-9C was brought before the Court of Appeals of the District of Columbia in 1994, as shown in the third attachment, which suit was never decided because WETA/GWU withdrew their application for the antennas in question.

This constitutes yet additional evidence that the matter of electrical sensitivity and radio wave sickness was known to the Federal Communications Commission when it began its rulemaking process in Docket No. ET 93-62 in 1993, and that its responsibilities under the National Environmental Policy Act (NEPA) have not been

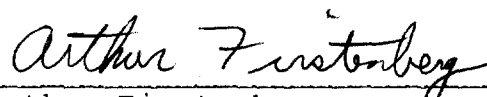
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fulfilled. The Report and Order issued August 1, 1996 in that Docket, establishing radiofrequency emissions safety guidelines covering a vast network of new personal wireless service facilities in the United States, was a major action with significant impact on millions of Americans everywhere in this country and therefore should not be effective without an environmental impact statement drafted by the Commission as required by NEPA. An environmental impact study of these regulations was not done, and still remains to be done.

Respectfully submitted,

January 20, 1998  
Original + 4 copies

  
\_\_\_\_\_  
Arthur Firstenberg  
President, Cellular Phone Taskforce  
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Brooklyn, New York 11210  
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I affirm that the foregoing Comments are true and correct, and I certify that I have mailed a copy of said Comments by Express Mail this 20th day of January, 1998 to Dr. Robert Cleveland, Jr., 2000 M Street, N.W., Room 266, Washington, DC 20554.

  
\_\_\_\_\_  
Arthur Firstenberg

TESTIMONY OF  
MARIJA HUGHES  
2400 VIRGINIA AVENUE, NW  
WASHINGTON, D.C. 20037

RE: CASE NO. 93-9C

WETA/GWU PROPOSED COMMUNICATIONS JOINT/VENTURE

H & 21st STREET, NW - WASHINGTON, D.C.

ROOF-TOP ARRAY OF COMMUNICATIONS ANTENNAS

OCTOBER 25, 1993

I am Marija Hughes, I live at 2400 Virginia Avenue, NW. I have been a resident at Columbia Plaza in the District of Columbia for the past 18 years. My apartment complex is four blocks from the eight story communications building, which WETA/GWU proposes to construct at H & 21st Street, NW.

Recently, the U.S. Department of Labor (US DOL) in my Reasonable Accommodation case ruled in my favor on health problems I sustained in my workplace. My biological disorders were linked to emissions from my computer and one in a neighboring office, fluorescent lights, telephones, and other electrical and electronic products. US DOL ruled that I should not use computers, and that I must be shielded from electronic product emissions. As a result, I have severe anemia and whenever I am exposed to any form of radiation, I suffer nosebleeds, dizziness, terrible headaches, abdominal disorders, and other ailments associated with radiation sickness. Electromagnetic radiation (EMR) affects millions of people like myself. On behalf of myself, other workers, District residents, hospital patients, and tourists, I oppose the proposed project of the Greater Washington Educational Association (WETA) and George Washington University (GWU), because of its array of antennas which will flood the community with EMRs. I am not opposed to either WETA or GWU or any benefits the partnership may reap from their high-tech venture. Rather, I object to the public health threat of the WETA/GWU radiation-emitting antennas.

A Forster  
607-334-8222  
M Hughes  
202-214-8268

## WETA/GWU ANTENNAS

The WETA/GWU partnership proposes to construct a high-power, radio frequency telecommunications center in the middle of the highly populated downtown business and residential district. The proposed project includes fifteen antennas. Five of which are on top of the penthouse and ten on a tower at the southeast corner of the building.

WETA/GWU will have four (4) dishes on the roof to transmit and receive (transceiver) programs to and from satellites. The satellites will transmit programs to WETA's present television tower located on River Road in Bethesda, Maryland. Roof-top dishes will turn to satellites to receive programs. Antennas on the roof-top towers will transmit radio programs to radio towers located in Arlington, Virginia. In June 1993, WETA opened a radio station in Hagerstown, Maryland. This station has a repeater tower that gets its signal from Baltimore. The signal may beam to Baltimore from satellites positioned over Washington, D.C. Microwave relay towers also will be installed on the WETA/GWU roof. These towers will transfer educational data from GWU closed circuit, television networks to surrounding area stations.

If WETA/GWU follows the path of other such ventures, it is likely that the partners will lease tower space to other parties who will install antennas to operate at <sup>a</sup>various frequencies. With all this equipment on the roof, one can assume that the ultimate goal of WETA/GWU is to establish a high-tech super-highway in the heart of Downtown Washington. To do so, WETA/GWU must ask the Commission to change the zoning of the site from its existing residential (R-5-D) status to commercial (C-3-C). Thus, one can envision a situation as shown in Exhibit A.

## HEALTH IMPACTS OF EMRs

The WETA/GWU venture, no matter how modest it appears, will threaten the health of citizens. WETA/GWU have not been specific in what they plan to do with

the antennas, or how many antennas ultimately will be on the roof. Should the venture evolve as a multiuser high-tech super-highway, the community will be bathed with radiation and its accompanying EMRs. In any case, WETA/GWU profits at the high cost of public health. Attachment A covers some of the technical issues of the current and proposed operation of WETA and some of the potential uses to which the proposed transceivers and possible additional ones could be directed in the future. If WETA/GWU lease antenna space, other companies may transport personal computer system (PCS) data at several frequencies over 800 MHz. Antenna space also could be leased for police and fire communications, medical and courier paging systems, cellular phones, fax, telephone company news transmission, shop at home franchises, and many other forms of networking.

Communications Engineering, Inc. (CEI) prepared a health impact report for the WETA/GWU project. CEI concluded that the operation of the WETA/GWU antennas would not pose a health hazard to citizens. CEI did not cite and analyze the implications of, any biological studies. It is not clear if they have health experts in their firm to do so. The feasibility study of Cohen, Dippell, and Everest (CDE) also makes the same claims. The engineers of both firms do not appear to understand how radiation, and its EMRs, affect biological systems. The applicant may truthfully state all antennas on its towers meet FCC standards. But the FCC neither regulates nor establishes standards for public health, instead is relying on other government agencies. (see p. 14 of its Q & A bulletin, attached as Exhibit C-8.

There is a growing body of scientific evidence pointing to health hazards from non-ionizing radiation in the radio frequency range. This includes "high frequency" to "extremely high frequency" waves precisely the signals transmitted and received off WETA towers for television and radio, and the potential uses in the future discussed previously.

In order to limit the discussion of EMRs, I have submitted a large volume of materials on the hazards some of which are summarized in Attachment B. Within the last decade it has become clear, as shown in the submitted materials, that there are biological effects from radio frequencies. The literature suggests tumorigenesis, lymphoma, leukemia, calcim efflus, immunodeficiency, eye damage, reproductive injury, among others.

#### IMPACT ON FOGGY BOTTOM AND NEARBY NEIGHBORHOODS AND FACILITES

Within 1300 feet, and directly under, the proposed WETA/GWU hightech communications antennas are the: (a) infirmed at George Washington University Hospital; (b) students in residence halls and classrooms (c) students, faculty, and staff traveling to and from buildings; (d) low-rise office buildings, shops, restaurants; (e) churches; (f) several IMF and World Bank buildings; and (g) the Board of Catholic Missions under, and less than 15 feet from, the antenna. The proposed site is a busy pedestrian <sup>W</sup>alkway and vehicular pathway. The many antennas now on the roofs of buildings around our community interfere with radios, televisions, and other electronic equipment. The power density of the WETA/GWU antennas, concentrated in such a tightly populated residentially-zoned area, will damage electronic equipment in our homes and nearby workplaces. Radiation will increase the incidence of cancer, disease, and death in our neighborhood. If permits are granted to WETA/GWU to construct the proposed building with its antennas, the health and safety of innocent citizens in our community will be seriously threatened without their knowledge or understanding.

Pilots are already complaining that laptop computers, which operate at 33MHz, interfere with airplane navigation systems and throw airplanes off-course. The WETA/GWU antennas beaming to satellites can cause great damage to the radar and electronic systems of low flying airplanes and to FAA navigational systems for National Airport. Other vulnerable sites for radiation and interference from the WETA/GWU tele-communications super-highway include the White House, FBI,

Pentagon, Department of State, work places and residence across the Potomac River, hospitals in these states, and existing antennas like those in Rosslyn in Virginia. Besides airplane navigation systems, antenna radio and television frequencies could interfere with the electronic computer systems in automobiles, emergency vehicles, and the Metro system electronic network.

#### CONCLUSION

While I am not saying that the bioeffects of radio waves have been conclusively established, the Applicants cannot assert that there is no health hazard or that the 15 transceivers "shall not adversely effect" the neighborhood. Moreover, experts have failed to prove that radiation is safe. If radiation were safe, the Department of Labor would not have ruled in my favor and courts would refuse EMR cases. The health and safety hazards of EMRs are the subject of continuing research. The debate goes on. This was seen recently in the dispute, between citizens and Georgetown University, over the proposed cogeneration plant. The District's Department of Consumer and Regulatory Affairs recently ruled that Georgetown must prove powerline emissions are safe, healthwise. In the NBC/WRC antenna proposal slated for the ANC 3-C area, the Commission favored the health and welfare of citizens who would be irradiated by high radio, and ultra high television, frequency antennas. In these and other cases, wise public decision making respected the health of the citizens.

The Applicants' analysis does not address the following questions regarding electromagnetic emissions:

- . Are the transmission effects of the thirteen transceivers (which are not analyzed) in any way different from those of the two which were analyzed?
- . Are there cumulative effects from the simultaneous operation of multiple transceivers?
- . What is the impact of radiation from transceivers operating in their receiving mode (only transmission mode is analyzed)?

The Applicants' analysis does not address two other areas: noise and interference. The transceivers used for receiving satellite transmissions are high gain antennas. This implies that their high pitch sound (both audible and inaudible) will increase significantly during operations. This potentially may impact both people and animals.

The Applicants' analysis limited itself to electromagnetic emissions. No analysis is made of the potential for interference with electronic equipment in nearby residences and workplaces and along the beam region.

Finally, the Commission may be interested in knowing that no record was found at FCC indicating that WETA/GWU filed a license application to telecommunicate from the District. CEI's health impact report is also not in the FCC engineering or license file. In fact, FCC was unaware that WETA/GWU planned to build a communications center at H & 21st Street. When it was discussed with FCC personnel, they found it incredible that WETA/GWU would attempt to mount towers and antennas in the heart of downtown Washington. If it surprised FCC, imagine the impact this proposition has on citizens in the immediate community who, knowing little about radiation, would have to live with health-threatening radiating antennas 24 hours per day. I come before your Commission to ask that, for the good of this community, you bar the WETA/GWU project.

Substantiating information is attached for your convenience. Thank you for your time.

#### ATTACHMENTS

Attachments A-C

Exhibits A-C



Zoning Case No. 93-9C

REPLY BRIEF OF PETITIONER

0-7

Before the National Capital Planning Commission on March 3, 1994 on  
Zoning Commission Case No. 93-9C

I. INTRODUCTION

Mr. Chairman, Members of the Commission, I am Marija Hughes. I live at 2400 Virginia Avenue, NW, close to the site of the proposed building. I am a federal employee working for the U.S. Department of Labor, (US DOL), Occupational Health and Safety Administration, as a Technical Information Specialist. As part of my job and my great personal interest, I conduct research on radiation on the job and away from the job. My radiation research has been published in 1990 and 1993 as a two-volume set, Computer Health Hazards.

In September 1993, US DOL, in my Reasonable Accommodation case, ruled in my favor on health problems I sustained in my workplace. My biological disorders were linked to <sup>the</sup> electromagnetic radiation emissions from my computer and from electromagnetic products. As a result, I suffer from nosebleeds, dizziness (collapsed 3 times into moving traffic and was hit by car), terrible headaches, abdominal disorders, coordination, and other ailments associated with radiation sickness.

I agree with the Executive Director's Report (EDR) and with the comments of other speakers on the issue of violation of the Height Act of 1910 and of potential interference with electronic transmissions and communications in which the federal government has an interest.

I would like to address in some detail the impact of high frequency radio waves on federal workers, buildings, and property nearby and along the transmission beams. (Attachment 1). Map A, accompanying the EDR, shows some of the federal buildings near the site and the closest federal properties are two triangular parks on either side of Pennsylvania Avenue between 20th and 21st Streets (the James Monroe Park and the Edward R. Murrow Park).

## II. THE FEDERAL INTEREST

It may be argued that The Federal Communications Commission (FCC) will address some of the health and safety concerns when WETA/GWU apply for a license. The FCC report on Q & A About Biological Effects states: "FCC licenses and approves equipment and facilities that generate RF and microwave radiation. However, the FCC's primary jurisdiction does not lie in the health and safety area. Therefore, the FCC must rely on other agencies and organizations for guidance in these matters," p. 14 (Attachment 2). However, it is the U.S. Environmental Protection Agency which is responsible for setting national standards in the radiation area. EPA has chosen not to accept the voluntary ANSI/IEEE standards as the national standards because they are industry based and oriented. EPA is supporting research to ascertain appropriate standards. An article in the January/February 1994 issue of Microwave News states in its opening sentence: "...EPA has come out strongly against the... FCC proposal to adopt the ANSI/IEEE C95.1-1992 standard on RF/MW exposure, saying that the standard has 'serious flaws' and questioning whether it is 'sufficiently protective of public health and safety'." There have been attempts by the EPA Office of Radiation Programs to create a federal standard at less than one-tenth than ANSI limit. EPA also has recommended to FCC that it adopt the exposure limits recommended by the National Council on Radiation Protection and Measurements (NCRP), Rept. No. 86. Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields. The NCRP is more protective than 1992 ANSI/IEEE at high frequencies. Also, NCRP is chartered by the U.S. Congress to develop radiation protection recommendations. (Attachment 3). U.S. Air Force has adopted limits up to 100 times stricter than ANSI/IEEE 1992. (Attachment 4)

It might be argued that the applicants' consultants addressed environmental concerns and concluded that the proposed antennas would not threaten public health

However, that consultant is, by definition, not an independent, disinterested, third party and used the FCC standards noted above as the basis for its decision. Moreover, the consultant did not address if there would be cumulative effects from the simultaneous operation of multiple transceivers--not just the 15 antennas proposed for the building but including also other transceivers in the immediate vicinity, e.g., on the top of the International Monetary Fund and World Bank building the CBS building about three blocks away. (Attachment 5)

Finally, the same argument which was made initially regarding asbestos and being made regarding cigarettes and nicotine--scientists do not agree on dangers from high frequency radio waves, can be used. But the role of public policy officials is different from that of scientists and principle of "prudent avoidance" suggests that the results of epidemiological studies be examined to see if federal workers and visitors to federal buildings and property are protected.

### III. HEALTH EFFECTS

Like some of you, I read in the medical and legal literature about possible health risks associated with exposure to electromagnetic fields from power substations high voltage lines and microwave towers. Most frightening is the possible increase in the risk of cancer and childhood leukemia. With the threat of having 8 transceivers near my apartment and in the central federal employment area, I am motivated to talk with the experts in the field, conduct literature search, and see what steps other cities across the U.S. has taken to restrict the construction of microwave towers and other EMF sources. (Attachment 6) I talked with Sam Milham, MD, who examined amateur radio operators' cause of death and found leukemia. Milton Zaret, MD, who documented microwave cataracts, Paul Brodeur, who in Zapping of America, described the already existing antennas in Washington, D.C. Louis Slesin, editor of Microwave News, Dr. Andrew Marino, biophysicist at Louisiana State University Medical School, editor of the Journal of Bioelectricity and the author of the principal textbook on interactions of electromagnetic fields

with living organisms, and with Dr. Stephen Cleary, Professor of Physiology and Biophysics and on the Editorial Board of Bioelectromagnetics (Attachment 7)

The current research consists of epidemiological studies, laboratory research, and clinical research. Attachment 8 are Sheldon Benjamin's MD slides which give more details. High frequency radio waves can cause death, cancer, other health effects, neuropsychiatric symptoms, and effect every organ, including reproductive. The neuropsychiatric symptoms are: attention and memory difficulties, depression and dementia. (Attachment 9). The animal studies show cancer of blood and nervous system. The human studies show increase of cancer at the Honolulu Broadcast towers, <sup>in</sup> Polish military personnel, near University of Rochester FM Antenna, and U.S. Embassy in Moscow personnel. Among occupational microwave accidents, Robert Engall, microwave technician at FAA, died at 35. Yannon, worker at microwave relay for RCA, lost sight, hearing and coordination and died at 57. Robert Strom, exposed at Boeing, has leukemia, had a bone marrow transplant and is not doing well now. Keith Angstadt, an employee of Mutual Broadcasting System, Inc, whose eyesight was damaged by microwave radiation from an illegal satellite transmitter has won a \$2 million judgement. (Attachment 10) Richard Eldridge, one of six civilian employees who were exposed to radar radiation in a 1983 accident at Clear Air Force Station near Fairbanks, AK, won \$1.6 million award. (Attachment 11).

The Swedish studies made a link with leukemia in children living near power lines.

If the Federal government and DC government approves WETA/GWU it will violate Fifth Amendment of the Constitution: loss of life, liberty and property. Without due process, it will be an unjust taking.

#### IV. RECOMMENDATION

Since there is a sufficient number of questions concerning the WETA/GWU project indicating that it might be in violation of the federal interest, I am

asking that the project be postponed until we federal workers are assured that additional high frequency radiation emissions will not possibly endanger our lives, and that we will not be suffering from longterm radiation effects. Broadcasting towers should not be permitted to be built in the central employment area, potentially endangering lives, liberty and the property of federal employees. I am for the fostering of DC's economic growth, but not at the cost of lives and health of federal employees.